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15-16 April 2019, Geneva

Commodity dependence and risk management in CDDCs

By

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The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.

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Overview

Commodity markets feature a range of risks

- **Price risk**
- Production risk
- Transportation risk
- Counterparty risk
- Currency risk
- **Weather and climate-related risks**

Commodity price risk

Commodity prices are volatile (1/6)

UNCTAD Commodity Price Indices (2015=100)

300
250
200
150
100
50
0

Jan. 2000, Jul. 2000, Jan. 2001, Jul. 2001, Jan. 2002, Jul. 2002, Jan. 2003, Jul. 2003, Jan. 2004, Jul. 2004, Jan. 2005, Jul. 2005, Jan. 2006, Jul. 2006, Jan. 2007, Jul. 2007, Jan. 2008, Jul. 2008, Jan. 2009, Jul. 2009, Jan. 2010, Jul. 2010, Jan. 2011, Jul. 2011, Jan. 2012, Jul. 2012, Jan. 2013, Jul. 2013, Jan. 2014, Jul. 2014, Jan. 2015, Jul. 2015, Jan. 2016, Jul. 2016, Jan. 2017, Jul. 2017, Jan. 2018, Jul. 2018, Jan. 2019

All groups — All food — Agricultural raw materials — Minerals, ores and metals — Fuels

Commodity prices are volatile (2/6)

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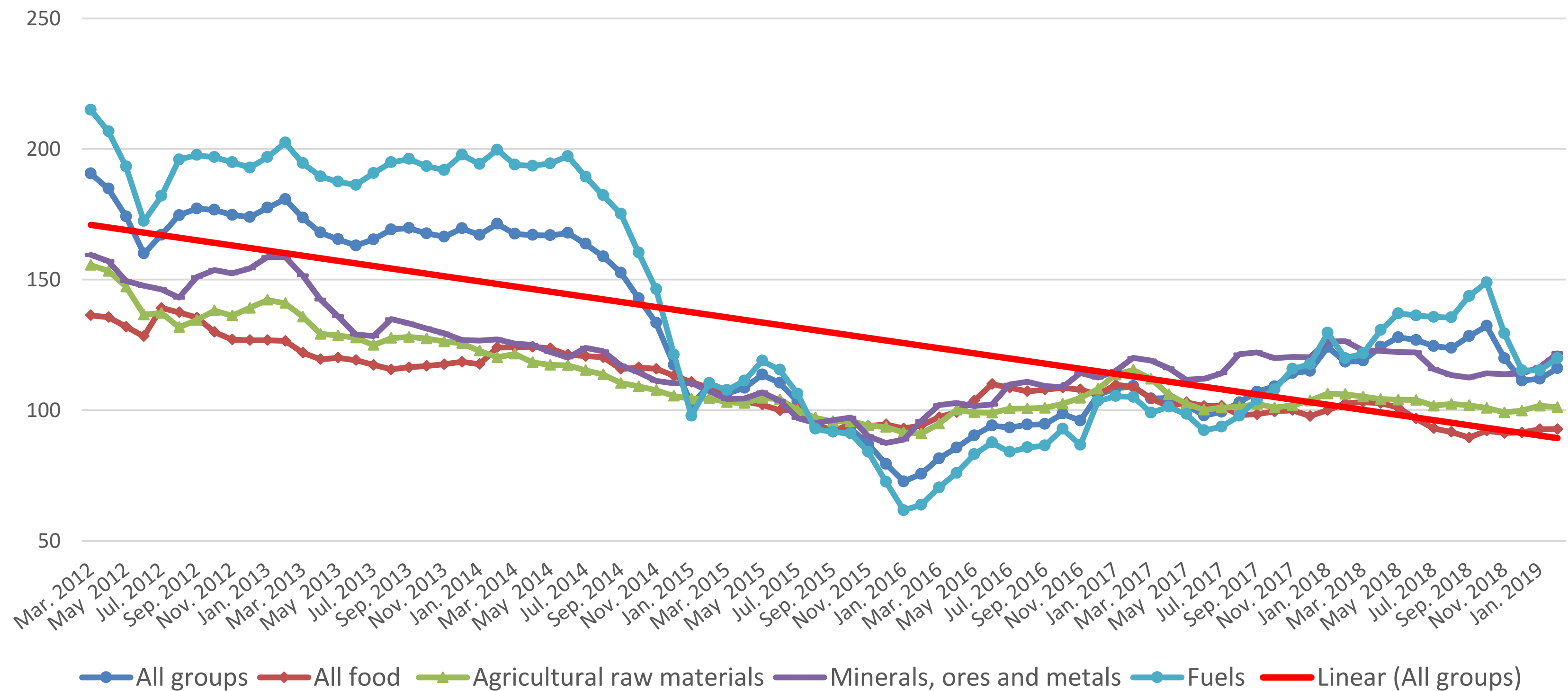
UNCTAD Commodity Price Indices (2015=100)



Commodity prices are volatile (3/6)

UNCTAD Commodity Price Indices (2015=100)

160
150
140
130
120
110
100
90
80
70
60

Jan. 2016, Feb. 2016, Mar. 2016, Apr. 2016, May 2016, June 2016, Jul. 2016, Aug. 2016, Sep. 2016, Oct. 2016, Nov. 2016, Dec. 2016, Jan. 2017, Feb. 2017, Mar. 2017, Apr. 2017, May 2017, June 2017, Jul. 2017, Aug. 2017, Sep. 2017, Oct. 2017, Nov. 2017, Dec. 2017, Jan. 2018, Feb. 2018, Mar. 2018, Apr. 2018, May 2018, June 2018, Jul. 2018, Aug. 2018, Sep. 2018, Oct. 2018, Nov. 2018, Dec. 2018, Jan. 2019, Feb. 2019

All groups | All food | Agricultural raw materials | Minerals, ores and metals | Fuels

Commodity prices are volatile (4/6)

Monthly percentage changes of UNCTAD Commodity Price Index (all groups)

15
10
5
0
-5
-10
-15
-20

Feb. 2000
June 2000
Oct. 2000
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Feb. 2019

Commodity prices are volatile (5/6)

- 59% of the monthly changes from February 2000 to February 2019 were positive; 41% were negative
- 56% of the shocks with an absolute value above 5% were positive; 44% were negative
- The average size of negative shocks was -4.3%; the average size of positive shocks was 3.9%
- Large positive shocks followed by large negative shocks create problematic environment

Commodity prices are volatile (6/6)

Coefficient of variation of UNCTAD commodity price indices (Jan 2000 - Feb 2019)

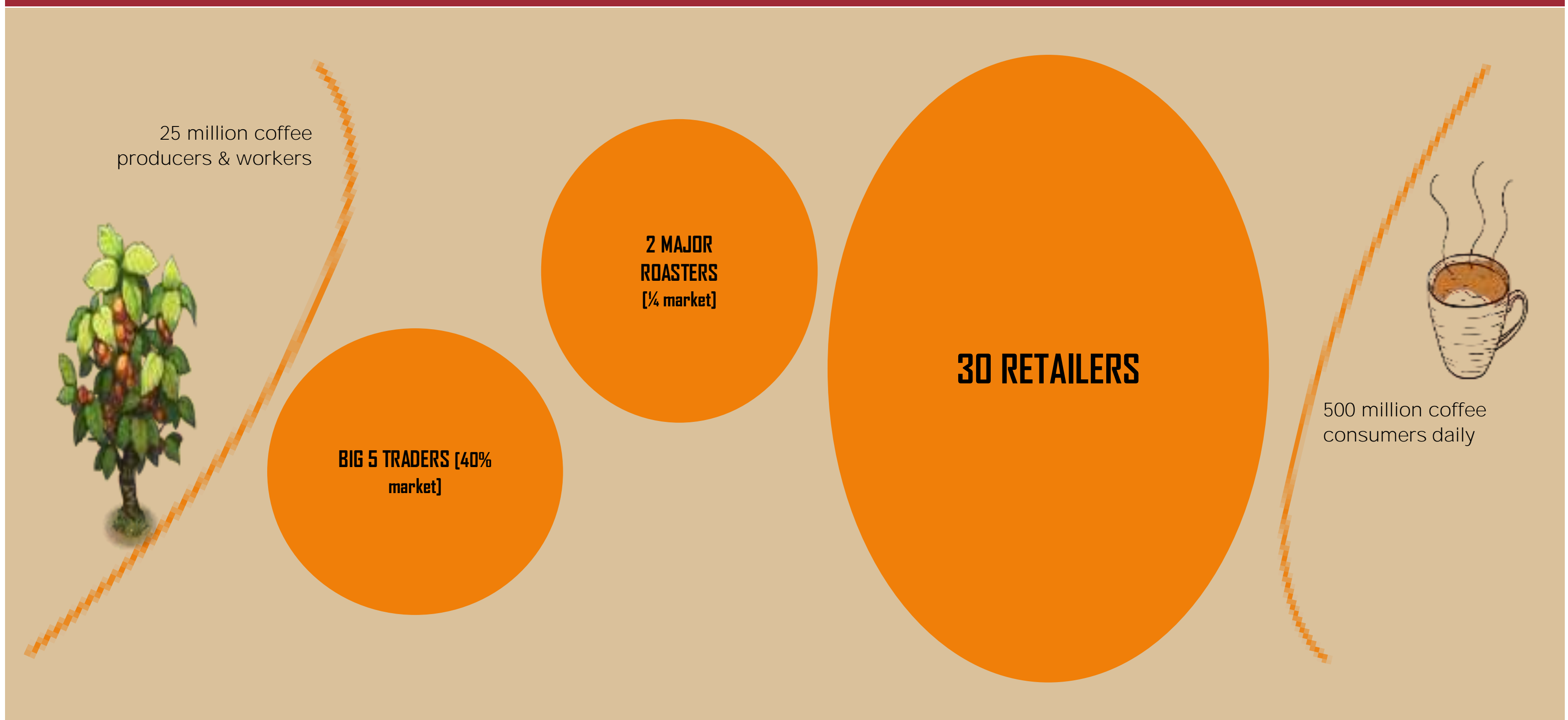
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0

All groups | All food | Agricultural raw materials | Minerals, ores and metals | Fuels

Why are volatile commodity prices a problem?

- Price volatility creates uncertainty for governments, commodity producers, traders and exporters
- Threat to the sustainability and continuity of public development programmes
- Risk for the achievement of SDGs in commodity-dependent developing countries

Burden of volatility passed on producers, mostly….



Source: UNCTAD secretariat

Addressing price risk

International commodity agreements

- ICAs for sugar, coffee, cocoa and natural rubber
- Objective: Stabilize prices by quotas & buffer stock
- Dismantled or ceased to intervene in market in 1980s & 1990s
- Also agricultural marketing boards abolished or scaled back

Financial instruments to hedge commodity price risk (1/2)

- **Futures** - standardized, exchange-traded contracts to buy or sell a commodity at a specified future date

- **Forward contracts** - non-standardized, generally OTC-traded agreement of a future sale of a commodity

- **Options** - Right but not an obligation to buy or sell a commodity at a pre-specified price

- **Swaps** - exchange of cash flows based on the price of a commodity

Financial instruments to hedge commodity price risk (2/2)

- Use financial instruments to hedge commodity price risk not widespread in CDDCs

- A few examples for commodity exporters
  - Mexico oil hedge
  - Petrobras oil hedge
  - Codelco copper hedge

- Also some commodity importers used financial instruments to hedge price risk
  - Ghana, Jamaica, Morocco, Uruguay oil hedge
  - Malawi maize hedge

Example: Mexican oil hedge program

- Mexico has used derivatives (options) to hedge price of oil exports since 2000; seen as world's largest sovereign derivates trade
- Options exercised 3 times: 2009 (payout: $5 billion), 2015 ($6.4 billion) and 2016 ($2.7 billion)
- For 2019, Mexico placed $1.23 billion in put options to lock in an export price of $55 per barrel
- Benefits: less volatility in oil revenue and lower sovereign risk (thus lower borrowing costs)

Commodity exchanges in developing countries

- Regulated market places where commodities and derivatives are traded
- Enhance market access and provide physical infrastructure
- Price discovery, risk management and facilitation of trade

Commodity SWFs and precautionary saving

- Accumulate savings during periods of high prices to enhance resilience during times of low prices

- Stabilization
  - shield budget from shocks and volatility of commodity revenue
  - support countercyclical fiscal policy rules

- Saving
  - risk management through diversification of assets
  - accumulation of assets improves net debt position, which reduces financing costs

Commodity-linked bonds

- Link debt obligations to repayment ability
- Coupon rates, principal repayments or payment schedules could be linked to commodity prices
- Debt payments vary with the price level of export commodities
- Examples: Mexican Petrobonds, Sonatrach oil-linked loan
- Challenges: no existing liquid market, high risk/novelty premiums, political concerns

Weather and climate risk

Weather is a key source of risk for farmers

- Particularly smallholder farmers are vulnerable to weather-related shocks

- Such risks often uninsured, leading to inefficient coping strategies:
  - Sell productive assets such as livestock or land
  - Reduce spending on education or health
  - Decrease food consumption

Insuring weather and climate-related risk

Index-based weather insurance

- Based on weather-related indices such as rainfall or temperature
- Trigger a payout if a threshold level of the index is surpassed
- Lower transaction costs than indemnity-based insurance
- Implemented in countries e.g. Bangladesh, Burkina Faso, Ethiopia, India, Kenya, Malawi, Mexico, Nicaragua, Rwanda, Senegal, Thailand, & Viet Nam
- Low take up often a challenge

Index-based weather insurance: Examples

- Index-based weather insurance piloted in India in 2003
  - adopted by government in 2007
  - 12 million farmers, 40 different crops over 15 million hectares covered

- Kilimo Salama project started in 2009 with a pilot insuring 200 farmers in Kenya against drought and excess rain
  - expanded to Rwanda in 2012 and to Tanzania in 2013
  - covered 187,000 farmers in three countries by the end of 2013
  - project transformed to commerical provider in 2014

Summary

Summary and policy considerations (1/3)

- Commodity markets are volatile and therefore a source of risk and uncertainty for CDDCs
- Risk management tools for governments include financial instruments, precautionary saving and commodity-linked debt instruments
- Commodity exchanges can help smallholder farmers, traders and exporters to manage commodity-related risk

Summary and policy considerations (2/3)

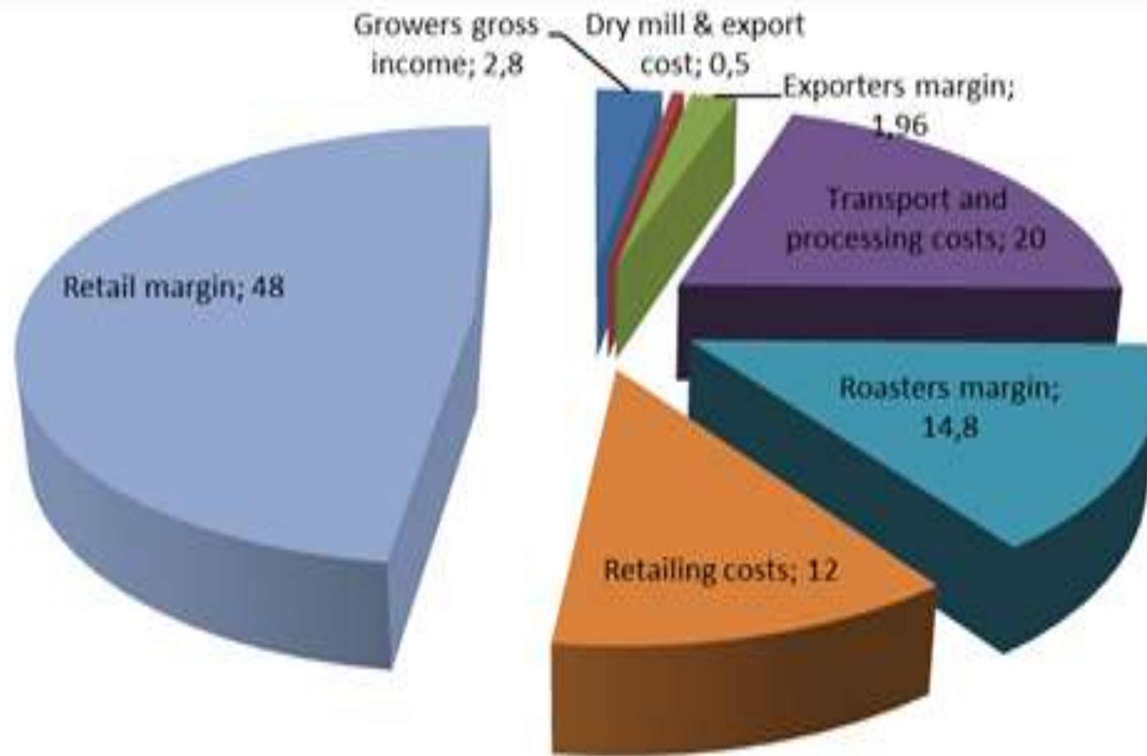
- Index-based weather insurance can protect smallholder farmers from weather and climate-related shocks

- These instruments should be widely used but require training

- Raising incomes of most vulnerable, in line with the SDGs, is crucial to strengthen economic and social resilience of households

- Diversification is most direct way to reduce dependence on commodities, mitigate risk & increase macroeconomic resilience

Summary and policy (3/3): fairer distribution of value



Thank you.

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